

## **Assessment Report for BCMB Program 2021-2022 Academic Year**

The BCMB Program faculty met via Teams on May 12, 2022. The following members were present: Andrew Schurko (chair), Jennifer Dearolf, Andrea Duina, Richard Murray, Andres Caro, David Hales, Caitlin Scott

The following faculty members were absent: Julie Gunderson

In the meeting, our goal was to assess the success of the program in meeting the following BCMB Learning Goals:

- *Analyze and interpret experimental results using appropriate quantitative tools*
- *Summarize and express information orally, visually and in writing.*
- *Recognize the ethical issues involved in both the conduct of research and in the dimensions of research.*

To help us assess these, we used the following assessment tools:

### **I. Direct assessment:**

- Research experience carried out as part of BCMB 498/499
- Rubric of final research report and oral presentation (in Senior Seminar)
- Quiz of ethics training module

### **II. Indirect assessment:**

- Senior exit survey (provided as a separate attached document)

## **I. Direct assessment of learning goals**

### ***Learning goal 7: Analyze and interpret experimental results using appropriate quantitative tools***

#### **Direct Assessment Tool: Grades on BCMB 498/X99 (Independent Research experience)**

To fulfill the BCMB research requirement (eight weeks of full-time summer research, or two semesters of research for ~10 hours/week), students enroll in either BCMB 498 (non-credit course) or BCMB X99 (one credit course) or CHEM 450 (for certain circumstances). Completion of courses is based on quality of work, lab notebook and research presentation.

The five students who completed research for course credit (via BCMB X99 or CHEM 450) received an A grade. The 13 students who completed their research by taking BCMB 498 (non-credit) received a CR grade. Similarly, in 2020-21, all students completing research for credit (BCMB X99) or non-credit (BCMB 498) received grades of A or CR, respectively.

This high level of academic achievement (based on grades in BCMB 498/X99) demonstrates that this learning goal is being fulfilled as part of the BCMB program. However, in our assessment

meeting we recognized that research experiences vary among students; in particular, many students complete research off-campus which makes it challenging for BCMB faculty to evaluate the quality of research (*i.e.* at the bench/in the lab) and lab notebook. While BCMB 498/X99 grades are informative for this learning goal, this is much disparity in how they are determined (in particular for CR grades for BCMB 498). Therefore, we agreed that grades alone are insufficient for assessing this learning goal in subsequent years. We will reevaluate our plan for assessing this learning goal in the fall, considering the following ideas (in addition to or in place of grades for BCMB 498/X99):

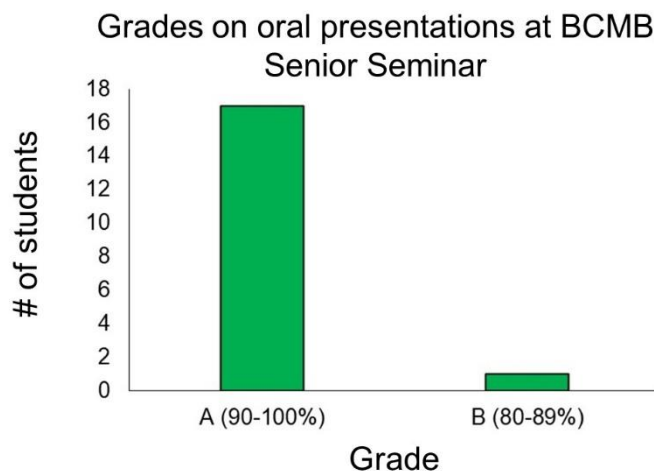
- i) Include an exercise from the laboratory in *Biochemistry (CHEM 330)* (a required course for all BCMB majors) as a direct assessment tool, specifically for the analyze, interpret and quantitative tools aspects of this learning goal. In this lab, students isolate the lysozyme protein from egg whites using two experimental methods--ion-exchange chromatography and size-exclusion chromatography. The amount of protein is quantified with Bradford assay. The purity of lysozyme is determined with ImageJ analysis of sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE) results. For grading, students submit two lab reports. Each week they are provided with a template and a rubric. Students are assessed on their articulation of objectives, interpretation of results, discussion of results, and presentation of data.
- ii) Include a formal evaluation (*e.g.* rubric) for the lab notebook students keep as part of their BCMB research. This could provide a uniform way for BCMB faculty to evaluate on- and off-campus research students and be included with the grades for BCMB 498/X99 in our assessment.
- iii) Use the grade and rubric of the final research paper in place of the grade for the BCMB 498/X99 course. The paper is solely graded by BCMB faculty (including students who do off-campus research) using a rubric that we designed, which would make evaluation consistent for all students (in particular for students who complete off-campus research) and could be adjusted to assess the analyze, interpret and quantitative tools aspects of this learning goal.

### **Learning goal 8: Summarize and express information orally, visually and in writing.**

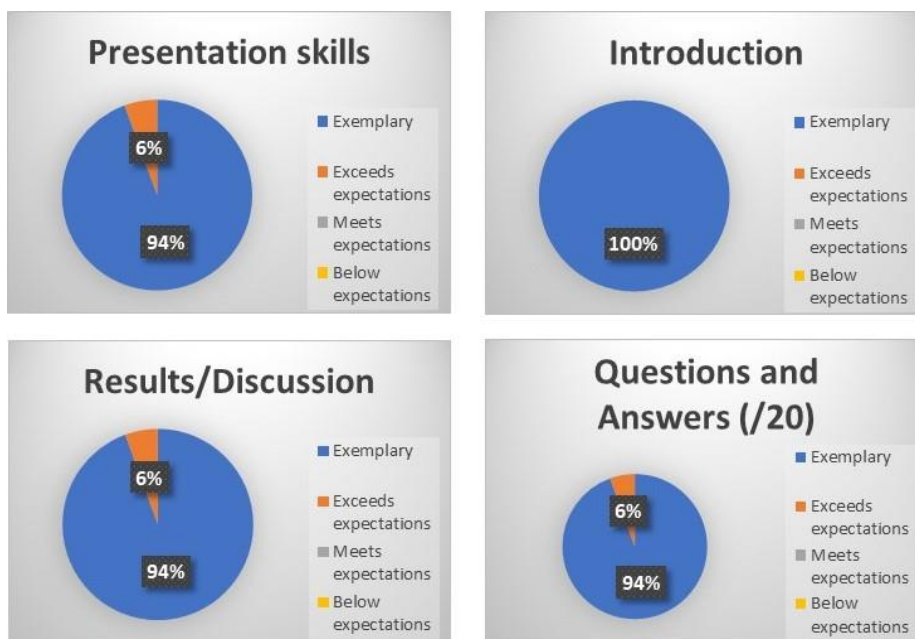
#### **Direct Assessment Tool: Rubric of final research report and oral presentation (in Senior Seminar)**

**a) Research presentations:** All BCMB seniors complete BCMB 497 (*Senior Seminar*) during spring semester of their senior year. In this course, students give an oral presentation (based on the independent research done in the context of the BCMB research requirement) to their peers and the course instructor. In previous years, this was a non-credit course and presentations were graded by two BCMB faculty members (the course instructor and one additional person). In 2021-22, this was the first year that *Senior Seminar* was a full-credit course in which presentations were graded by the course instructor and four students who provided peer evaluations and grades. All grading was done using a rubric developed by the instructor for Senior Seminar (the rubric is provided as an attachment).

The grade distribution on these presentations (for a total of 18 students) is shown below:

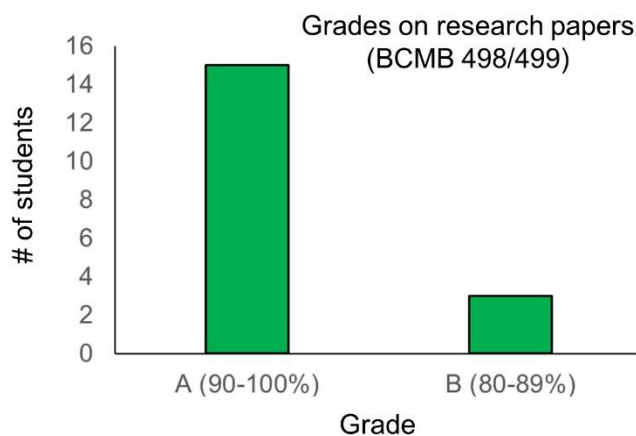


The rubric for presentations breaks down the evaluation using four levels of proficiency, and below is the distribution of grades for each category (for a total of 18 rubrics):

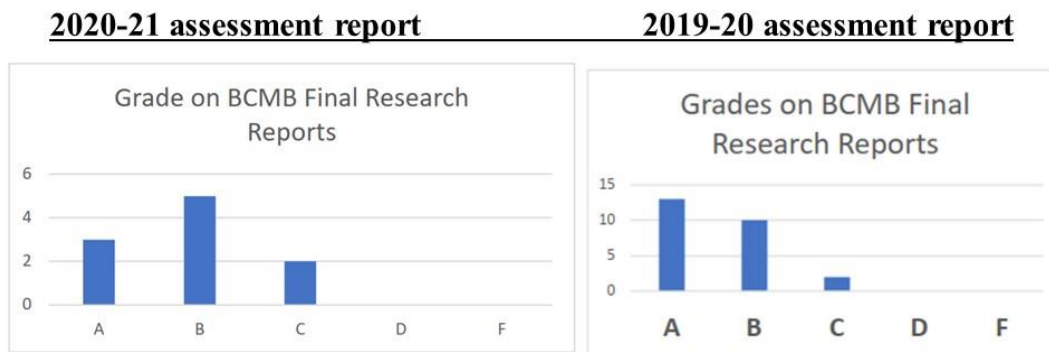


The summaries of presentation grades and rubric categories reveal high levels of achievement. This demonstrates that the learning goal (in particular, the ability to summarize and express information orally and visually) is being fulfilled. However, this was the first year that both the rubric was used and the course was for full credit, so there is no basis for comparison to previous years. Anecdotally, peer grading was very generous and might have contributed to the high levels of achievement. At our assessment meeting, the BCMB faculty agreed on a plan this fall to evaluate and modify (if appropriate) the rubric for presentations to ensure we are including criteria for assessing this learning goal.

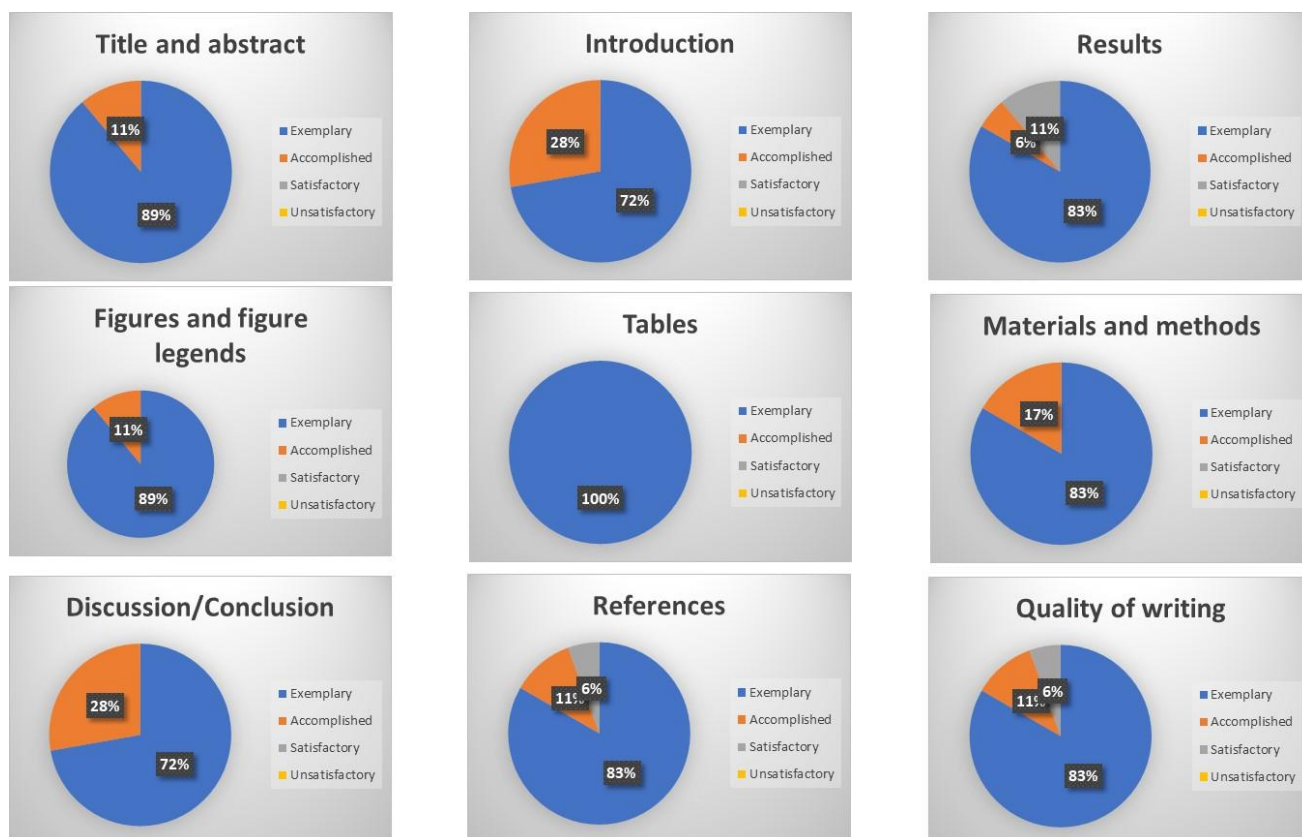
**b) Research papers:** As part of the BCMB research requirement, students write a research paper that summarizes their independent research project. This paper is written in the style of a scientific article under the mentorship of a BCMB faculty member, and with guidance on writing during *Senior Seminar*. There is an expectation that the students will provide at least one draft to their mentor for feedback, which should be incorporated into the final draft. The paper is graded by the mentor using a rubric developed by the BCMB faculty (provided as an attachment) and the grades are summarized below:



The same rubric has been used for the past three years. For comparison, the distribution of grades from the previous two years for the research paper is provided below:



The rubric addresses nine different categories of evaluation. The charts below (on the next page) show the distribution of the proficiency levels for each category (for a total of 18 rubrics):



This high level of academic achievement in the final grades and nine categories demonstrates that this learning goal (in particular, the ability to summarize and express information visually and in writing) is being fulfilled. There is an improvement in overall grades relative to previous years and the levels of achievement in the nine categories were also improved compared to the previous two years (a summary from the previous two years is provided as an attachment).

There are two possible explanations for this improvement in achievements in 2021-22:

- The conversion of *BCMB Senior Seminar* to a full-credit course provided opportunities for students to work on their scientific writing. For example, one class discussion was dedicated to writing and organizing research papers and assignments on preparing the introduction, methods, figures, etc. were also included so that students can spend time working on this in class and get feedback. These tools had not been used in previous years.
- In the 2020-21 Assessment report, we addressed the concern regarding the need to do a better job ensuring that the research reports are graded uniformly. This year, we strived to make sure to set strict deadlines for turning in drafts to avoid problems with students turning in first drafts too late so that feedback cannot be incorporated, to ensure more uniform grading across all students.

## **Learning goal 9: *Recognize the ethical issues involved in both the conduct of research and in the dimensions of research***

### **Direct assessment tool: Ethics training module**

The opportunity to consider ethical issues in research, we use part of the training modules from the University of Columbia available at <http://ccnmtl.columbia.edu/projects/rcr>. As part of the BCMB research requirement, all students must complete three training modules (Conflicts of Interest, Responsible Authorship and Peer Review, and Research Misconduct). In each case, students read the Introduction, the Foundation Text (with embedded videos), and the Conclusion. When they complete the courses, students take a short online quiz (administered via Teams) and students must pass the quiz (>60% grade) to complete the research requirement for BCMB.

In 2021-22, 18 students complete the ethic training and quiz and the summary of grades are below:

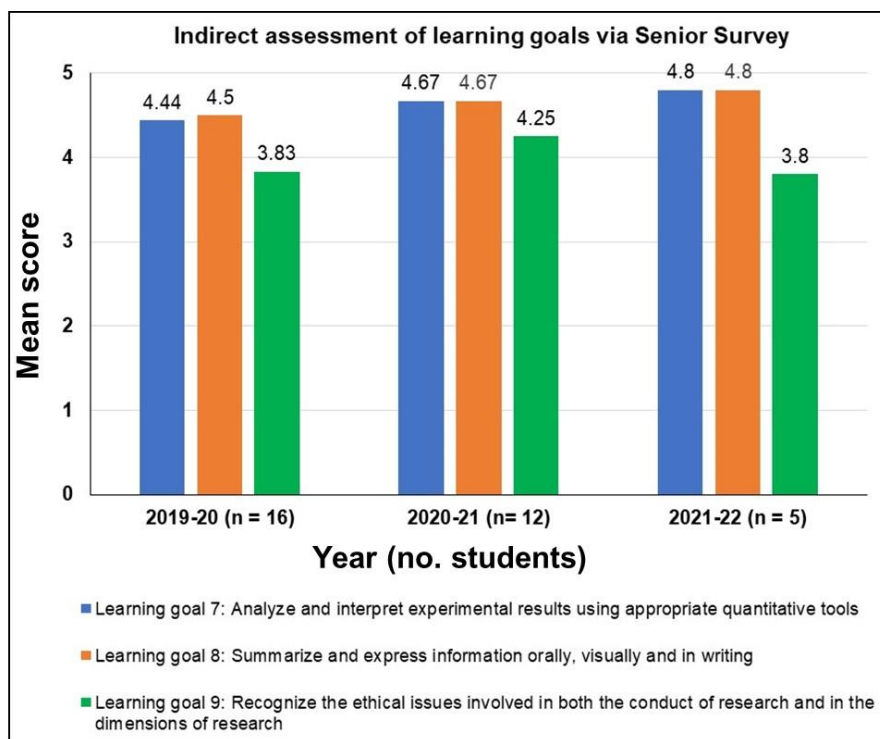


Based on the completion of the quizzes and high grades, this direct assessment shows the learning goal is being fulfilled. However, this learning goal had the lowest score based on indirect assessment of learning goals (via the Senior Survey; see attached and below). After completion of the quiz, one day in *BCMB Senior Seminar* is dedicated to discussing ethics in research, and students write a reflection paper on the topic. The BCMB faculty will discuss this fall whether to incorporate the reflection paper or other measure into our assessment plans for this learning goal.

## **II. Indirect assessment of learning goals**

Only five students (out of 18 total) completed the Senior Survey in 2021-22, which diminishes the significance of the results compared to previous years. Next year, we plan to dedicate time during *BCMB Senior Seminar* for all students to complete the survey to get more meaningful feedback.

From the BCMB Senior Survey (5 respondents total), the results are shown below with the mean for each learning goal (1 = strongly disagree, 2 = disagree, 3 = neither agree/disagree, 4 = agree, 5 = strongly agree).



Scores for learning goals 7 and 8 remain high in the survey. However, the low score for learning goal 9 in two out of three years is notable, although this might be hindered by the small sample size this year. As noted in the direct assessment for learning goal 9, we will discuss ways to better integrate this learning goal for assessment in the fall.

### III. Reflection on assessment data for learning goals 7, 8 and 9:

BCMB program faculty reflected on the assessment data and our discussions from the meeting, and our thoughts are summarized below with future planning for assessment included:

Learning goal 7 (*Analyze and interpret experimental results using appropriate quantitative tools*)

- Students have high achievement in the assessment tool for this learning goal. However, we agreed that a more in-depth form of assessment is needed, and there was strong support for using the protein purification scheme from the *Biochemistry (CHEM 330)* lab as a new assessment tool. We will update our assessment plan in the fall when we discuss this, and the other, options.

Learning goal 8 (*Summarize and express information orally, visually and in writing*)

- Students showed improvement in their grades for presentations and papers, and high levels of achievement for the individual categories for each assignment. This might be partly attribute to the effort being devoted to these assignments during *Senior Seminar*. The rubric for presentations will be discussed in the fall and reevaluated to ensure it is optimized for evaluating this learning goal.

Learning goal 9 (*Recognize the ethical issues involved in both the conduct of research and in the dimensions of research*)

- All students completed the ethics training and quiz. Indirect assessment suggests more consideration is needed for how we integrate this learning goal into the curriculum. A reflection paper was added to *BCMB Senior Seminar* and this fall we will reevaluate whether this could be incorporated into our assessment plan.

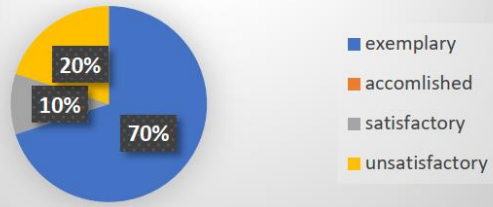
### **Other thoughts:**

- *Literature and database searches:* In last year's assessment report, we indicated that we were going to make sure that the *General Chemistry* and *Genetics* courses included sections dedicated to literature and database searches. This had not been done for all sections and courses, and we will continue to work in incorporating this into these classes next year.
- *Using Bloom's taxonomy on our Capstone Exam:* in last year's assessment report, we agreed that using Bloom's taxonomy to categorize the questions in our Capstone Exam would be a good way to help assess the "*Describe, interpret, and integrate foundational and core concepts in the discipline*" learning goal. This is also on our schedule for the following academic year.



# Research Paper Grading (2020-21)

## Title and Abstract



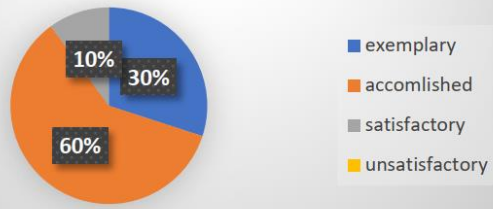
## Results



## Discussion and Conclusion



## Introduction



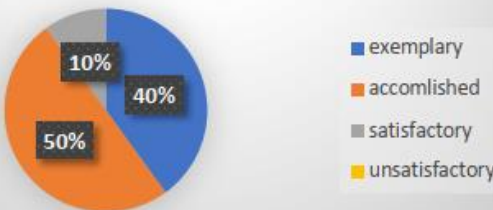
## Figures and Legends



## References



## Materials and Methods



## Tables

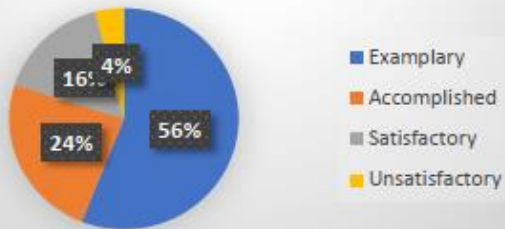


## Quality of Writing

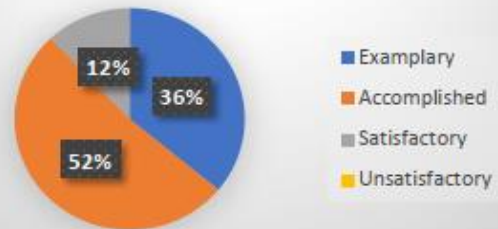


# Research Paper Grading (2019-20)

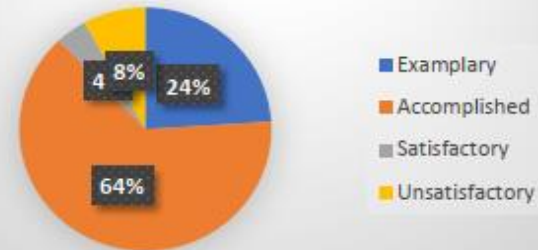
## Title and Abstract



## Introduction



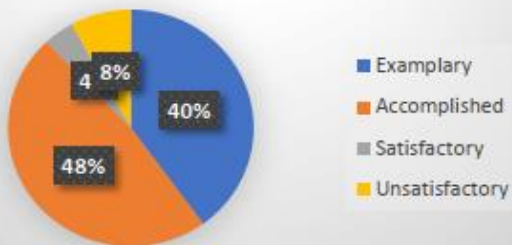
## Discussion/Conclusion



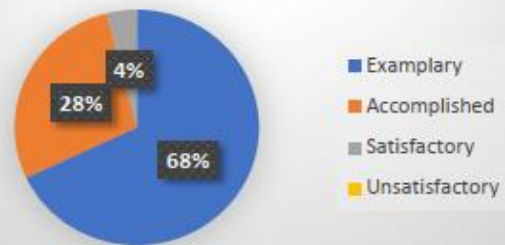
## References



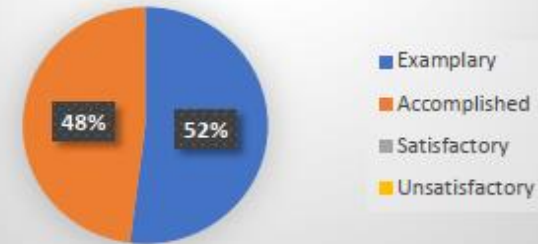
## Results



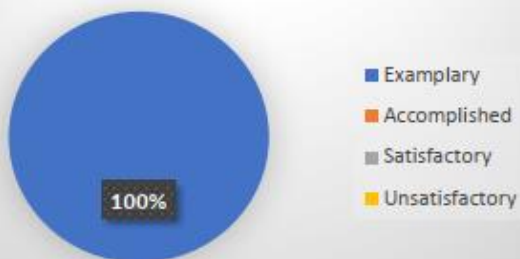
## Figures and Legends



## Quality of Writing



## Tables



## Materials and Methods



### BCMB Senior Seminar Evaluation Form – Spring 2022

Presenter name:

Date:

Evaluator name:

| <b>Presentation Skills</b> | <b>Exemplary<br/>(4.5 – 5.0 points)</b>  | <b>Exceeds Expectations<br/>(3.5 – 4.0 points)</b> | <b>Meets Expectations<br/>(3.0 points)</b> | <b>Below Expectations<br/>(0 – 2.5 points)</b> | <b>Value</b> |
|----------------------------|--|--|--|--|--------------|
| Overall Organization:      | The presentation was well organized, logical, and easy to follow.  |  |  |  | /5           |
| Delivery:                  | The presenter spoke clearly and with sufficient volume, and made good eye contact (no reading from notes). |  |  |  | /5           |
| Slides:                    | Slides had good contrast (color combinations), large readable fonts, and figures were well labeled.        |  |  |  | /5           |
| Comments:                  |  |  |  |  | /15          |
| <b>Introduction</b>        | <b>Exemplary<br/>(9.0 – 10.0 points)</b>   | <b>Exceeds Expectations<br/>(7.5 – 8.5 points)</b> | <b>Meets Expectations<br/>(7.0 points)</b> | <b>Below Expectations<br/>(0 – 6.5 points)</b> | <b>Value</b> |
| Background Information     | Background information was organized, concise, and sufficient to understand the research question.         |  |  |  | /10          |
| Hypothesis/Objective       | The hypothesis or objective was clearly stated.  |  |  |  | /10          |
| Approach                   | The rationale and approach were explained clearly.   |  |  |  | /10          |
| Comments:                  |  |  |  |  | /30          |

### BCMB Senior Seminar Evaluation Form – Spring 2022

| Results/Discussion            | Exemplary<br>(4.5 – 5.0 points)   | Exceeds Expectations<br>(3.5 – 4.0 points) | Meets Expectations<br>(3.0 points) | Below Expectations<br>(0 – 2.5 points) | Value |
|-------------------------------|---|--|------------------------------------|--|-------|
| Overall Presentation          | Clear logical presentation of the results.  |  |                                    |  | /5    |
| Methods                       | Presenter demonstrated strong understanding of the methods used.  |  |                                    |  | /5    |
| Figures/Tables                | Figures and tables were clear and labeled appropriately   |  |                                    |  | /5    |
| Data Presentation             | Figures and/or tables were clearly explained in a concise fashion                                       |  |                                    |  | /5    |
| Attribution of work by others | Experiments performed by the presenter were clearly indicated and attribution was given for other data. |  |                                    |  | /5    |
| Conclusion                    | Conclusions were clearly explained and related to the original research question.                       |  |                                    |  | /5    |
| Future Directions             | Future directions and unanswered questions were clearly explained.                                      |  |                                    |  | /5    |
| Comments:                     |   |  |                                    |  | /35   |
| Questions and Answers         | Exemplary<br>(18 – 20 points)   | Exceeds Expectations<br>(3.5 – 4.0 points) | Meets Expectations<br>(3.0 points) | Below Expectations<br>(0 – 2.5 points) | Value |
| Questions                     | Presenter answered the questions directly and encouraged discussion                                     |  |                                    |  |       |
| Comments:                     |   |  |                                    |  | /20   |

## Rubric for grading BCMB Research Reports (Spring 2022)

| <i>Graded items:</i>             | <b>Exemplary (9-10)</b>   | <b>Accomplished (8-9)</b>   | <b>Satisfactory (7-8)</b>  | <b>Unsatisfactory (1-7)</b>   | <i>Points earned</i> | <i>Weighted points earned</i> |
|----------------------------------|---|---|--|---|----------------------|-------------------------------|
| <b>Title and Abstract (5pts)</b> | <input type="checkbox"/> The title concisely summarizes the main goal and/or results of the study. If appropriate, the name of the model system used in the study is included. The abstract is concise, and addresses the main points of the study. | <input type="checkbox"/> Student does most, but not all, of the things in the exemplary category. List those things that were not done at an exemplary level: | <input type="checkbox"/> Student does many, but not most, of the things in the exemplary category. List those things that were not done at an exemplary or accomplished level: | <input type="checkbox"/> Student does not do most of the things in the exemplary category. List things that need improvement: |                      |                               |

|                                 |   |   |  |   |  |  |
|---------------------------------|---|---|--|---|--|--|
| <b>Introduction<br/>(15pts)</b> | <input type="checkbox"/> The introduction includes general background of the relevant field and, if appropriate, more specific background related to the project. The rationale for the project and the question addressed in the study are well-articulated. Hypotheses are clearly stated, testable, and should have scientific merit. If applicable, a short statement of the overall findings is presented. Appropriate citations are included. | <input type="checkbox"/> Student does most, but not all, of the things in the exemplary category. List those things that were not done at an exemplary level: | <input type="checkbox"/> Student does many, but not most, of the things in the exemplary category. List those things that were not done at an exemplary or accomplished level: | <input type="checkbox"/> Student does not do most of the things in the exemplary category. List things that need improvement: |  |  |
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| <b>Results<br/>(20pts)</b> | <input type="checkbox"/> The rationale for the experiments and the description of the associated results are clearly and comprehensively presented.<br>Appropriate controls are present and explained.<br>Experimental design tests the hypothesis posed. If appropriate, the results are coherently organized using subheadings. | <input type="checkbox"/> Student does most, but not all, of the things in the exemplary category. List those things that were not done at an exemplary level: | <input type="checkbox"/> Student does many, but not most, of the things in the exemplary category. List those things that were not done at an exemplary or accomplished level: | <input type="checkbox"/> Student does not do most of the things in the exemplary category. List things that need improvement: |  |  |
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| <b>Figures and Figure Legends (10pts)</b> | <input type="checkbox"/> The figures are well organized and deliver the results in a clear and succinct fashion. All required labels, including units of measurement, are included. If applicable, error bars on bar graphs are included. The figure legends succinctly and comprehensively describe the corresponding results. If applicable, statistical methodology and appropriate statistical representations are included in the legend. Figure numbers and titles are included. | <input type="checkbox"/> Student does most, but not all, of the things in the exemplary category. List those things that were not done at an exemplary level: | <input type="checkbox"/> Student does many, but not most, of the things in the exemplary category. List those things that were not done at an exemplary or accomplished level: | <input type="checkbox"/> Student does not do most of the things in the exemplary category. List things that need improvement: |  |  |
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| <b>Tables<br/>(5pts)</b>                 | <input type="checkbox"/> Tables are thoughtfully prepared and effectively present and/or summarize the desired information. Table numbers, titles, and appropriate footnotes are included   | <input type="checkbox"/> Student does most, but not all, of the things in the exemplary category. List those things that were not done at an exemplary level: | <input type="checkbox"/> Student does many, but not most, of the things in the exemplary category. List those things that were not done at an exemplary or accomplished level: | <input type="checkbox"/> Student does not do most of the things in the exemplary category. List things that need improvement: |  |  |
| <b>Materials and Methods<br/>(10pts)</b> | <input type="checkbox"/> The M&M section succinctly describes the fine details of the experiments performed and does not include the rationale for the experiments, the corresponding results, nor other extraneous information. Personal pronouns are not used. The M&M section is organized by grouping each experimental procedure under separate subheadings. | <input type="checkbox"/> Student does most, but not all, of the things in the exemplary category. List those things that were not done at an exemplary level: | <input type="checkbox"/> Student does many, but not most, of the things in the exemplary category. List those things that were not done at an exemplary or accomplished level: | <input type="checkbox"/> Student does not do most of the things in the exemplary category. List things that need improvement: |  |  |

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| <b>Discussion/<br/>Conclusion<br/>(15pts)</b> | <input type="checkbox"/> The Discussion includes a succinct summary of the overall results of the study and possible interpretation(s) of the data. Conclusions are clearly and logically drawn from data provided. A logical chain of reasoning from hypothesis to data to conclusions is clearly explained. Conflicting data, if present, are adequately addressed. A discussion of how the results of the study integrate within the field as a whole is presented. Possible future studies are presented. | <input type="checkbox"/> Student does most, but not all, of the things in the exemplary category. List those things that were not done at an exemplary level: | <input type="checkbox"/> Student does many, but not most, of the things in the exemplary category. List those things that were not done at an exemplary or accomplished level: | <input type="checkbox"/> Student does not do most of the things in the exemplary category. List things that need improvement: |  |  |
|---|---|---|--|---|--|--|

|                                   |   |   |  |   |  |  |
|-----------------------------------|---|---|--|---|--|--|
| <b>References section (5pts)</b>  | <input type="checkbox"/> Citations are included throughout the report as appropriate. Only primary literature is cited (no references to textbooks, lab manuals, or websites should occur). The References section includes citations of all the articles cited throughout the report. The citations are formatted following a style that is commonly used within the discipline. | <input type="checkbox"/> Student does most, but not all, of the things in the exemplary category. List those things that were not done at an exemplary level: | <input type="checkbox"/> Student does many, but not most, of the things in the exemplary category. List those things that were not done at an exemplary or accomplished level: | <input type="checkbox"/> Student does not do most of the things in the exemplary category. List things that need improvement: |  |  |
| <b>Quality of writing (15pts)</b> | <input type="checkbox"/> The report contains no grammatical errors and the sentence structures are well thought-out. Sentences, paragraphs, and specific report sections flow in a logical and coherent fashion.  | <input type="checkbox"/> Student does most, but not all, of the things in the exemplary category. List those things that were not done at an exemplary level: | <input type="checkbox"/> Student does many, but not most, of the things in the exemplary category. List those things that were not done at an exemplary or accomplished level: | <input type="checkbox"/> Student does not do most of the things in the exemplary category. List things that need improvement: |  |  |

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|--|-------------------------------|--|--|
|  | <b>Total possible points:</b> |  |  |
|  | <b>Total points earned:</b>   |  |  |
|  | <b>Overall grade:</b>         |  |  |

**Additional comments:**

# Hendrix College

## 202122 BCMB Senior Survey

### 1 - A. Courses and Faculty

#### Breadth of curriculum

| Response Option                    | Weight | Frequency | Percent | Percent Responses | Means    |
|------------------------------------|--------|-----------|---------|-------------------|----------|
| Very Dissatisfied                  | (1)    | 0         | 0.00%   |                   | 4.20     |
| Dissatisfied                       | (2)    | 0         | 0.00%   |                   |          |
| Neither Satisfied nor Dissatisfied | (3)    | 0         | 0.00%   |                   |          |
| Satisfied                          | (4)    | 4         | 80.00%  |                   |          |
| Very Satisfied                     | (5)    | 1         | 20.00%  |                   |          |
| N/A                                | (0)    | 0         | 0.00%   |                   |          |
|                                    |        |           |         | 0 25 50 75 100    | Question |
| Response Rate                      | Mean   | STD       |         |                   |          |
| 5/5 (100%)                         | 4.20   | 0.45      |         |                   |          |

### 1 - A. Courses and Faculty

#### Quality of curriculum

| Response Option                    | Weight | Frequency | Percent | Percent Responses | Means    |
|------------------------------------|--------|-----------|---------|-------------------|----------|
| Very Dissatisfied                  | (1)    | 0         | 0.00%   |                   | 4.60     |
| Dissatisfied                       | (2)    | 0         | 0.00%   |                   |          |
| Neither Satisfied nor Dissatisfied | (3)    | 0         | 0.00%   |                   |          |
| Satisfied                          | (4)    | 2         | 40.00%  |                   |          |
| Very Satisfied                     | (5)    | 3         | 60.00%  |                   |          |
| N/A                                | (0)    | 0         | 0.00%   |                   |          |
|                                    |        |           |         | 0 25 50 75 100    | Question |
| Response Rate                      | Mean   | STD       |         |                   |          |
| 5/5 (100%)                         | 4.60   | 0.55      |         |                   |          |

### 1 - A. Courses and Faculty

#### Availability of courses

| Response Option                    | Weight | Frequency | Percent | Percent Responses | Means    |
|------------------------------------|--------|-----------|---------|-------------------|----------|
| Very Dissatisfied                  | (1)    | 0         | 0.00%   |                   | 3.20     |
| Dissatisfied                       | (2)    | 2         | 40.00%  |                   |          |
| Neither Satisfied nor Dissatisfied | (3)    | 0         | 0.00%   |                   |          |
| Satisfied                          | (4)    | 3         | 60.00%  |                   |          |
| Very Satisfied                     | (5)    | 0         | 0.00%   |                   |          |
| N/A                                | (0)    | 0         | 0.00%   |                   |          |
|                                    |        |           |         | 0 25 50 75 100    | Question |
| Response Rate                      | Mean   | STD       |         |                   |          |
| 5/5 (100%)                         | 3.20   | 1.10      |         |                   |          |

### 1 - A. Courses and Faculty

#### Accessibility of faculty

| Response Option                    | Weight | Frequency | Percent | Percent Responses | Means    |
|------------------------------------|--------|-----------|---------|-------------------|----------|
| Very Dissatisfied                  | (1)    | 0         | 0.00%   |                   | 4.60     |
| Dissatisfied                       | (2)    | 0         | 0.00%   |                   |          |
| Neither Satisfied nor Dissatisfied | (3)    | 0         | 0.00%   |                   |          |
| Satisfied                          | (4)    | 2         | 40.00%  |                   |          |
| Very Satisfied                     | (5)    | 3         | 60.00%  |                   |          |
| N/A                                | (0)    | 0         | 0.00%   |                   |          |
|                                    |        |           |         | 0 25 50 75 100    | Question |
| Response Rate                      | Mean   | STD       |         |                   |          |
| 5/5 (100%)                         | 4.60   | 0.55      |         |                   |          |

# Hendrix College

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### 1 - A. Courses and Faculty

#### Quality of instruction

| Response Option                    | Weight      | Frequency  | Percent | Percent Responses | Means    |
|------------------------------------|-------------|------------|---------|-------------------|----------|
| Very Dissatisfied                  | (1)         | 0          | 0.00%   |                   | 4.40     |
| Dissatisfied                       | (2)         | 0          | 0.00%   |                   |          |
| Neither Satisfied nor Dissatisfied | (3)         | 0          | 0.00%   |                   |          |
| Satisfied                          | (4)         | 3          | 60.00%  |                   |          |
| Very Satisfied                     | (5)         | 2          | 40.00%  |                   |          |
| N/A                                | (0)         | 0          | 0.00%   |                   |          |
|                                    |             |            |         | 0 25 50 75 100    | Question |
| <b>Response Rate</b>               | <b>Mean</b> | <b>STD</b> |         |                   |          |
| 5/5 (100%)                         | 4.40        | 0.55       |         |                   |          |

### 1 - A. Courses and Faculty

#### Preparation for professional school

| Response Option                    | Weight      | Frequency  | Percent | Percent Responses | Means    |
|------------------------------------|-------------|------------|---------|-------------------|----------|
| Very Dissatisfied                  | (1)         | 0          | 0.00%   |                   | 4.40     |
| Dissatisfied                       | (2)         | 0          | 0.00%   |                   |          |
| Neither Satisfied nor Dissatisfied | (3)         | 0          | 0.00%   |                   |          |
| Satisfied                          | (4)         | 3          | 60.00%  |                   |          |
| Very Satisfied                     | (5)         | 2          | 40.00%  |                   |          |
| N/A                                | (0)         | 0          | 0.00%   |                   |          |
|                                    |             |            |         | 0 25 50 75 100    | Question |
| <b>Response Rate</b>               | <b>Mean</b> | <b>STD</b> |         |                   |          |
| 5/5 (100%)                         | 4.40        | 0.55       |         |                   |          |

### 1 - A. Courses and Faculty

#### Preparation for graduate school

| Response Option                    | Weight      | Frequency  | Percent | Percent Responses | Means    |
|------------------------------------|-------------|------------|---------|-------------------|----------|
| Very Dissatisfied                  | (1)         | 0          | 0.00%   |                   | 4.40     |
| Dissatisfied                       | (2)         | 0          | 0.00%   |                   |          |
| Neither Satisfied nor Dissatisfied | (3)         | 0          | 0.00%   |                   |          |
| Satisfied                          | (4)         | 3          | 60.00%  |                   |          |
| Very Satisfied                     | (5)         | 2          | 40.00%  |                   |          |
| N/A                                | (0)         | 0          | 0.00%   |                   |          |
|                                    |             |            |         | 0 25 50 75 100    | Question |
| <b>Response Rate</b>               | <b>Mean</b> | <b>STD</b> |         |                   |          |
| 5/5 (100%)                         | 4.40        | 0.55       |         |                   |          |

### 2 - B. Advising

#### Availability of advisor

| Response Option                    | Weight      | Frequency  | Percent | Percent Responses | Means    |
|------------------------------------|-------------|------------|---------|-------------------|----------|
| Very Dissatisfied                  | (1)         | 0          | 0.00%   |                   | 4.40     |
| Dissatisfied                       | (2)         | 1          | 20.00%  |                   |          |
| Neither Satisfied nor Dissatisfied | (3)         | 0          | 0.00%   |                   |          |
| Satisfied                          | (4)         | 0          | 0.00%   |                   |          |
| Very Satisfied                     | (5)         | 4          | 80.00%  |                   |          |
| N/A                                | (0)         | 0          | 0.00%   |                   |          |
|                                    |             |            |         | 0 25 50 75 100    | Question |
| <b>Response Rate</b>               | <b>Mean</b> | <b>STD</b> |         |                   |          |
| 5/5 (100%)                         | 4.40        | 1.34       |         |                   |          |

## Hendrix College

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#### 2 - B. Advising

##### Advisor's ability in providing insight and assistance

| Response Option                    | Weight      | Frequency  | Percent | Percent Responses | Means    |
|------------------------------------|-------------|------------|---------|-------------------|----------|
| Very Dissatisfied                  | (1)         | 0          | 0.00%   |                   | 4.20     |
| Dissatisfied                       | (2)         | 1          | 20.00%  |                   |          |
| Neither Satisfied nor Dissatisfied | (3)         | 0          | 0.00%   |                   |          |
| Satisfied                          | (4)         | 1          | 20.00%  |                   |          |
| Very Satisfied                     | (5)         | 3          | 60.00%  |                   |          |
| N/A                                | (0)         | 0          | 0.00%   |                   |          |
|                                    |             |            |         | 0 25 50 75 100    | Question |
| <b>Response Rate</b>               | <b>Mean</b> | <b>STD</b> |         |                   |          |
| 5/5 (100%)                         | 4.20        | 1.30       |         |                   |          |

#### 2 - B. Advising

##### Advisor's ability in assisting me in Identifying and meeting major's requirements.

| Response Option                    | Weight      | Frequency  | Percent | Percent Responses | Means    |
|------------------------------------|-------------|------------|---------|-------------------|----------|
| Very Dissatisfied                  | (1)         | 0          | 0.00%   |                   | 4.40     |
| Dissatisfied                       | (2)         | 0          | 0.00%   |                   |          |
| Neither Satisfied nor Dissatisfied | (3)         | 1          | 20.00%  |                   |          |
| Satisfied                          | (4)         | 1          | 20.00%  |                   |          |
| Very Satisfied                     | (5)         | 3          | 60.00%  |                   |          |
| N/A                                | (0)         | 0          | 0.00%   |                   |          |
|                                    |             |            |         | 0 25 50 75 100    | Question |
| <b>Response Rate</b>               | <b>Mean</b> | <b>STD</b> |         |                   |          |
| 5/5 (100%)                         | 4.40        | 0.89       |         |                   |          |

#### 2 - B. Advising

##### Advisor's receptiveness of my goals

| Response Option                    | Weight      | Frequency  | Percent | Percent Responses | Means    |
|------------------------------------|-------------|------------|---------|-------------------|----------|
| Very Dissatisfied                  | (1)         | 0          | 0.00%   |                   | 4.40     |
| Dissatisfied                       | (2)         | 0          | 0.00%   |                   |          |
| Neither Satisfied nor Dissatisfied | (3)         | 1          | 20.00%  |                   |          |
| Satisfied                          | (4)         | 1          | 20.00%  |                   |          |
| Very Satisfied                     | (5)         | 3          | 60.00%  |                   |          |
| N/A                                | (0)         | 0          | 0.00%   |                   |          |
|                                    |             |            |         | 0 25 50 75 100    | Question |
| <b>Response Rate</b>               | <b>Mean</b> | <b>STD</b> |         |                   |          |
| 5/5 (100%)                         | 4.40        | 0.89       |         |                   |          |

#### 2 - B. Advising

##### Advisor's ability in assisting me with career planning

| Response Option                    | Weight      | Frequency  | Percent | Percent Responses | Means    |
|------------------------------------|-------------|------------|---------|-------------------|----------|
| Very Dissatisfied                  | (1)         | 0          | 0.00%   |                   | 3.80     |
| Dissatisfied                       | (2)         | 2          | 40.00%  |                   |          |
| Neither Satisfied nor Dissatisfied | (3)         | 0          | 0.00%   |                   |          |
| Satisfied                          | (4)         | 0          | 0.00%   |                   |          |
| Very Satisfied                     | (5)         | 3          | 60.00%  |                   |          |
| N/A                                | (0)         | 0          | 0.00%   |                   |          |
|                                    |             |            |         | 0 25 50 75 100    | Question |
| <b>Response Rate</b>               | <b>Mean</b> | <b>STD</b> |         |                   |          |
| 5/5 (100%)                         | 3.80        | 1.64       |         |                   |          |

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#### 2 - B. Advising

##### Advisor's ability in assisting me with graduate school advising

| Response Option                    | Weight      | Frequency  | Percent | Percent Responses | Means    |
|------------------------------------|-------------|------------|---------|-------------------|----------|
| Very Dissatisfied                  | (1)         | 0          | 0.00%   |                   | 4.00     |
| Dissatisfied                       | (2)         | 1          | 20.00%  |                   |          |
| Neither Satisfied nor Dissatisfied | (3)         | 1          | 20.00%  |                   |          |
| Satisfied                          | (4)         | 0          | 0.00%   |                   |          |
| Very Satisfied                     | (5)         | 3          | 60.00%  |                   |          |
| N/A                                | (0)         | 0          | 0.00%   |                   |          |
|                                    |             |            |         | 0 25 50 75 100    | Question |
| <b>Response Rate</b>               | <b>Mean</b> | <b>STD</b> |         |                   |          |
| 5/5 (100%)                         | 4.00        | 1.41       |         |                   |          |

#### 3 - C. Research Requirement

##### Availability of on-campus opportunities

| Response Option                    | Weight      | Frequency  | Percent | Percent Responses | Means    |
|------------------------------------|-------------|------------|---------|-------------------|----------|
| Very Dissatisfied                  | (1)         | 0          | 0.00%   |                   | 4.00     |
| Dissatisfied                       | (2)         | 0          | 0.00%   |                   |          |
| Neither Satisfied nor Dissatisfied | (3)         | 2          | 40.00%  |                   |          |
| Satisfied                          | (4)         | 1          | 20.00%  |                   |          |
| Very Satisfied                     | (5)         | 2          | 40.00%  |                   |          |
| N/A                                | (0)         | 0          | 0.00%   |                   |          |
|                                    |             |            |         | 0 25 50 75 100    | Question |
| <b>Response Rate</b>               | <b>Mean</b> | <b>STD</b> |         |                   |          |
| 5/5 (100%)                         | 4.00        | 1.00       |         |                   |          |

#### 3 - C. Research Requirement

##### Guidance for finding off-campus opportunities

| Response Option                    | Weight      | Frequency  | Percent | Percent Responses | Means    |
|------------------------------------|-------------|------------|---------|-------------------|----------|
| Very Dissatisfied                  | (1)         | 0          | 0.00%   |                   | 3.50     |
| Dissatisfied                       | (2)         | 1          | 20.00%  |                   |          |
| Neither Satisfied nor Dissatisfied | (3)         | 1          | 20.00%  |                   |          |
| Satisfied                          | (4)         | 1          | 20.00%  |                   |          |
| Very Satisfied                     | (5)         | 1          | 20.00%  |                   |          |
| N/A                                | (0)         | 1          | 20.00%  |                   |          |
|                                    |             |            |         | 0 25 50 75 100    | Question |
| <b>Response Rate</b>               | <b>Mean</b> | <b>STD</b> |         |                   |          |
| 5/5 (100%)                         | 3.50        | 1.29       |         |                   |          |

#### 3 - C. Research Requirement

##### The research experience was an important part of your education

| Response Option                    | Weight      | Frequency  | Percent | Percent Responses | Means    |
|------------------------------------|-------------|------------|---------|-------------------|----------|
| Very Dissatisfied                  | (1)         | 0          | 0.00%   |                   | 4.80     |
| Dissatisfied                       | (2)         | 0          | 0.00%   |                   |          |
| Neither Satisfied nor Dissatisfied | (3)         | 0          | 0.00%   |                   |          |
| Satisfied                          | (4)         | 1          | 20.00%  |                   |          |
| Very Satisfied                     | (5)         | 4          | 80.00%  |                   |          |
| N/A                                | (0)         | 0          | 0.00%   |                   |          |
|                                    |             |            |         | 0 25 50 75 100    | Question |
| <b>Response Rate</b>               | <b>Mean</b> | <b>STD</b> |         |                   |          |
| 5/5 (100%)                         | 4.80        | 0.45       |         |                   |          |



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### 4 - D. Overall

#### Overall quality of BCMB program

| Response Option                    | Weight      | Frequency  | Percent | Percent Responses | Means    |
|------------------------------------|-------------|------------|---------|-------------------|----------|
| Very Dissatisfied                  | (1)         | 0          | 0.00%   |                   | 4.40     |
| Dissatisfied                       | (2)         | 0          | 0.00%   |                   |          |
| Neither Satisfied nor Dissatisfied | (3)         | 0          | 0.00%   |                   |          |
| Satisfied                          | (4)         | 3          | 60.00%  |                   |          |
| Very Satisfied                     | (5)         | 2          | 40.00%  |                   |          |
| N/A                                | (0)         | 0          | 0.00%   |                   |          |
|                                    |             |            |         | 0 25 50 75 100    | Question |
| <b>Response Rate</b>               | <b>Mean</b> | <b>STD</b> |         |                   |          |
| 5/5 (100%)                         | 4.40        | 0.55       |         |                   |          |

### 5 - My experience in BCMB courses contributed to the development of the following learning goals:

#### Describe, interpret, and integrate foundational and core concepts in the discipline.

| Response Option            | Weight      | Frequency  | Percent | Percent Responses | Means    |
|----------------------------|-------------|------------|---------|-------------------|----------|
| Strongly Disagree          | (1)         | 0          | 0.00%   |                   | 4.60     |
| Disagree                   | (2)         | 0          | 0.00%   |                   |          |
| Neither Agree nor Disagree | (3)         | 0          | 0.00%   |                   |          |
| Agree                      | (4)         | 2          | 40.00%  |                   |          |
| Strongly Agree             | (5)         | 3          | 60.00%  |                   |          |
| N/A                        | (0)         | 0          | 0.00%   |                   |          |
|                            |             |            |         | 0 25 50 75 100    | Question |
| <b>Response Rate</b>       | <b>Mean</b> | <b>STD</b> |         |                   |          |
| 5/5 (100%)                 | 4.60        | 0.55       |         |                   |          |

### 5 - My experience in BCMB courses contributed to the development of the following learning goals:

#### Conduct appropriate scientific literature and database searches.

| Response Option            | Weight      | Frequency  | Percent | Percent Responses | Means    |
|----------------------------|-------------|------------|---------|-------------------|----------|
| Strongly Disagree          | (1)         | 0          | 0.00%   |                   | 4.80     |
| Disagree                   | (2)         | 0          | 0.00%   |                   |          |
| Neither Agree nor Disagree | (3)         | 0          | 0.00%   |                   |          |
| Agree                      | (4)         | 1          | 20.00%  |                   |          |
| Strongly Agree             | (5)         | 4          | 80.00%  |                   |          |
| N/A                        | (0)         | 0          | 0.00%   |                   |          |
|                            |             |            |         | 0 25 50 75 100    | Question |
| <b>Response Rate</b>       | <b>Mean</b> | <b>STD</b> |         |                   |          |
| 5/5 (100%)                 | 4.80        | 0.45       |         |                   |          |

### 5 - My experience in BCMB courses contributed to the development of the following learning goals:

#### Develop hypotheses and propose appropriate experiments to test them.

| Response Option            | Weight      | Frequency  | Percent | Percent Responses | Means    |
|----------------------------|-------------|------------|---------|-------------------|----------|
| Strongly Disagree          | (1)         | 0          | 0.00%   |                   | 4.60     |
| Disagree                   | (2)         | 0          | 0.00%   |                   |          |
| Neither Agree nor Disagree | (3)         | 1          | 20.00%  |                   |          |
| Agree                      | (4)         | 0          | 0.00%   |                   |          |
| Strongly Agree             | (5)         | 4          | 80.00%  |                   |          |
| N/A                        | (0)         | 0          | 0.00%   |                   |          |
|                            |             |            |         | 0 25 50 75 100    | Question |
| <b>Response Rate</b>       | <b>Mean</b> | <b>STD</b> |         |                   |          |
| 5/5 (100%)                 | 4.60        | 0.89       |         |                   |          |

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### 5 - My experience in BCMB courses contributed to the development of the following learning goals:

Conduct research effectively as an individual and as a team member.

| Response Option            | Weight | Frequency | Percent | Percent Responses | Means    |
|----------------------------|--------|-----------|---------|-------------------|----------|
| Strongly Disagree          | (1)    | 0         | 0.00%   |                   | 5.00     |
| Disagree                   | (2)    | 0         | 0.00%   |                   |          |
| Neither Agree nor Disagree | (3)    | 0         | 0.00%   |                   |          |
| Agree                      | (4)    | 0         | 0.00%   |                   |          |
| Strongly Agree             | (5)    | 5         | 100.00% |                   |          |
| N/A                        | (0)    | 0         | 0.00%   |                   |          |
|                            |        |           |         | 0 25 50 75 100    | Question |
| Response Rate              | Mean   | STD       |         |                   |          |
| 5/5 (100%)                 | 5.00   | 0.00      |         |                   |          |

### 5 - My experience in BCMB courses contributed to the development of the following learning goals:

Design and/or conduct experiments and record/archive the data appropriately.

| Response Option            | Weight | Frequency | Percent | Percent Responses | Means    |
|----------------------------|--------|-----------|---------|-------------------|----------|
| Strongly Disagree          | (1)    | 0         | 0.00%   |                   | 4.20     |
| Disagree                   | (2)    | 0         | 0.00%   |                   |          |
| Neither Agree nor Disagree | (3)    | 1         | 20.00%  |                   |          |
| Agree                      | (4)    | 2         | 40.00%  |                   |          |
| Strongly Agree             | (5)    | 2         | 40.00%  |                   |          |
| N/A                        | (0)    | 0         | 0.00%   |                   |          |
|                            |        |           |         | 0 25 50 75 100    | Question |
| Response Rate              | Mean   | STD       |         |                   |          |
| 5/5 (100%)                 | 4.20   | 0.84      |         |                   |          |

### 5 - My experience in BCMB courses contributed to the development of the following learning goals:

Perform experiments safely in the laboratory.

| Response Option            | Weight | Frequency | Percent | Percent Responses | Means    |
|----------------------------|--------|-----------|---------|-------------------|----------|
| Strongly Disagree          | (1)    | 0         | 0.00%   |                   | 4.80     |
| Disagree                   | (2)    | 0         | 0.00%   |                   |          |
| Neither Agree nor Disagree | (3)    | 0         | 0.00%   |                   |          |
| Agree                      | (4)    | 1         | 20.00%  |                   |          |
| Strongly Agree             | (5)    | 4         | 80.00%  |                   |          |
| N/A                        | (0)    | 0         | 0.00%   |                   |          |
|                            |        |           |         | 0 25 50 75 100    | Question |
| Response Rate              | Mean   | STD       |         |                   |          |
| 5/5 (100%)                 | 4.80   | 0.45      |         |                   |          |

### 5 - My experience in BCMB courses contributed to the development of the following learning goals:

Analyze and interpret experimental results using appropriate quantitative tools.

| Response Option            | Weight | Frequency | Percent | Percent Responses | Means    |
|----------------------------|--------|-----------|---------|-------------------|----------|
| Strongly Disagree          | (1)    | 0         | 0.00%   |                   | 4.80     |
| Disagree                   | (2)    | 0         | 0.00%   |                   |          |
| Neither Agree nor Disagree | (3)    | 0         | 0.00%   |                   |          |
| Agree                      | (4)    | 1         | 20.00%  |                   |          |
| Strongly Agree             | (5)    | 4         | 80.00%  |                   |          |
| N/A                        | (0)    | 0         | 0.00%   |                   |          |
|                            |        |           |         | 0 25 50 75 100    | Question |
| Response Rate              | Mean   | STD       |         |                   |          |
| 5/5 (100%)                 | 4.80   | 0.45      |         |                   |          |

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#### 5 - My experience in BCMB courses contributed to the development of the following learning goals:

Summarize and express information orally, visually and in writing.

| Response Option            | Weight | Frequency | Percent | Percent Responses | Means    |
|----------------------------|--------|-----------|---------|-------------------|----------|
| Strongly Disagree          | (1)    | 0         | 0.00%   |                   | 4.80     |
| Disagree                   | (2)    | 0         | 0.00%   |                   |          |
| Neither Agree nor Disagree | (3)    | 0         | 0.00%   |                   |          |
| Agree                      | (4)    | 1         | 20.00%  |                   |          |
| Strongly Agree             | (5)    | 4         | 80.00%  |                   |          |
| N/A                        | (0)    | 0         | 0.00%   |                   |          |
|                            |        |           |         | 0 25 50 75 100    | Question |
| Response Rate              | Mean   | STD       |         |                   |          |
| 5/5 (100%)                 | 4.80   | 0.45      |         |                   |          |

#### 5 - My experience in BCMB courses contributed to the development of the following learning goals:

Recognize the ethical issues involved in both the conduct of research and in the dimensions of research.

| Response Option            | Weight | Frequency | Percent | Percent Responses | Means    |
|----------------------------|--------|-----------|---------|-------------------|----------|
| Strongly Disagree          | (1)    | 0         | 0.00%   |                   | 3.80     |
| Disagree                   | (2)    | 1         | 20.00%  |                   |          |
| Neither Agree nor Disagree | (3)    | 1         | 20.00%  |                   |          |
| Agree                      | (4)    | 1         | 20.00%  |                   |          |
| Strongly Agree             | (5)    | 2         | 40.00%  |                   |          |
| N/A                        | (0)    | 0         | 0.00%   |                   |          |
|                            |        |           |         | 0 25 50 75 100    | Question |
| Response Rate              | Mean   | STD       |         |                   |          |
| 5/5 (100%)                 | 3.80   | 1.30      |         |                   |          |

#### 6 - Were you a double major?

| Response Option     |  | Weight | Frequency | Percent | Percent Responses      |    | Means |    |     |          |  |
|---------------------|--|--------|-----------|---------|------------------------|----|-------|----|-----|----------|--|
| Yes                 |  | (2)    | 2         | 40.00%  | <div><div></div></div> |    | 1.40  |    |     |          |  |
| No                  |  | (1)    | 3         | 60.00%  |                        |    |       |    |     |          |  |
|                     |  |        |           |         | <div><div></div></div> |    |       |    |     |          |  |
|                     |  |        |           |         | 0                      | 25 | 50    | 75 | 100 | Question |  |
| Response Rate       |  | Mean   | STD       |         |                        |    |       |    |     |          |  |
| 5/5 (100%)          |  | 1.40   | 0.55      |         |                        |    |       |    |     |          |  |
| • Study of the Mind |  |        |           |         |                        |    |       |    |     |          |  |
| • Study of the Mind |  |        |           |         |                        |    |       |    |     |          |  |

#### 7 - Are you a transfer student from another college or university?

| Response Option | Weight | Frequency | Percent | Percent Responses | Means    |
|-----------------|--------|-----------|---------|-------------------|----------|
| Yes             | (2)    | 0         | 0.00%   |                   | 1.00     |
| No              | (1)    | 5         | 100.00% |                   |          |
|                 |        |           |         | 0 25 50 75 100    | Question |
| Response Rate   | Mean   | STD       |         |                   |          |
| 5/5 (100%)      | 1.00   | 0.00      |         |                   |          |

#### 8 - How many years did you attend Hendrix?

| Response Rate   | 4/5 (80%) |
|---|-----------|
| <ul style="list-style-type: none"><li>• 4</li><li>• 4</li><li>• 4</li><li>• 4</li></ul> |           |

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#### 9 - What will your anticipated GPA be at graduation?

**Response Rate** 5/5 (100%)

- 3.60
- 3.8
- 4.0
- 3.63
- 3.3



#### 10 - Have you applied to any postgraduate school (e.g., graduate school, medical school)?

| Response Option | Weight | Frequency | Percent | Percent Responses   | Means    |
|-----------------|--------|-----------|---------|---|----------|
| Yes             | (2)    | 3         | 60.00%  |  | 1.60     |
| No              | (1)    | 2         | 40.00%  |  |          |
|                 |        |           |         | 0 25 50 75 100  | Question |
| Response Rate   | Mean   | STD       |         |   |          |
| 5/5 (100%)      | 1.60   | 0.55      |         |   |          |

- Ph. D. program in BCMB
- Master's Graduate Program
- Accepted into a dual-degree program as an MD/PhD candidate
- Yes, I plan to apply to Medical School in the next two years.
- no - I do not intend to apply within the next few years



#### 11 - If you do not intend to apply to postgraduate schools, please answer the following questions regarding your future work plans.

##### Have you applied for a job?

| Response Option | Weight | Frequency | Percent | Percent Responses   | Means    |
|-----------------|--------|-----------|---------|---|----------|
| Yes             | (2)    | 2         | 50.00%  |  | 2.00     |
| No              | (1)    | 0         | 0.00%   |   |          |
| N/A             | (0)    | 2         | 50.00%  |  |          |
|                 |        |           |         | 0 25 50 75 100  | Question |
| Response Rate   | Mean   | STD       |         |   |          |
| 4/5 (80%)       | 2.00   | 0.00      |         |   |          |



#### 11 - If you do not intend to apply to postgraduate schools, please answer the following questions regarding your future work plans.

##### If yes, have you been offered a position?

| Response Option | Weight | Frequency | Percent | Percent Responses   | Means    |
|-----------------|--------|-----------|---------|---|----------|
| Yes             | (2)    | 2         | 50.00%  |  | 2.00     |
| No              | (1)    | 0         | 0.00%   |   |          |
| N/A             | (0)    | 2         | 50.00%  |  |          |
|                 |        |           |         | 0 25 50 75 100  | Question |
| Response Rate   | Mean   | STD       |         |   |          |
| 4/5 (80%)       | 2.00   | 0.00      |         |   |          |

#### 11 - If you do not intend to apply to postgraduate schools, please answer the following questions regarding your future work plans.

##### Have you accepted a position?

| Response Option | Weight | Frequency | Percent | Percent Responses   | Means    |
|-----------------|--------|-----------|---------|---|----------|
| Yes             | (2)    | 2         | 50.00%  |  | 2.00     |
| No              | (1)    | 0         | 0.00%   |   |          |
| N/A             | (0)    | 2         | 50.00%  |  |          |
|                 |        |           |         | 0 25 50 75 100  | Question |
| Response Rate   | Mean   | STD       |         |   |          |
| 4/5 (80%)       | 2.00   | 0.00      |         |   |          |

## Hendrix College

### 202122 BCMB Senior Survey

#### 12 - IF you have accepted a position, please briefly describe it.

**Response Rate** 2/5 (40%)

- English Language Assistant for the Spanish government
- I will be working for Evergrain, a subsidiary of Anheuser-Busch InBev (Budweiser). I have accepted a 6-month rotational Co-Op position, so I'll go through the different aspects of their business, including the R&D side and the corporate management end. I am really excited because this combines my passion for sustainability and science with food production and equity.

#### 13 - What do you think are the strengths of the BCMB major, as it is presently constructed?

**Response Rate** 3/5 (60%)

- It ensures you get research experience which is helpful for making you a competitive applicant.
- The professors-or really a few professors. Dr. Caro, Dr. Gunderson, and Dr. Duina were amazing in and out of class and really helped in my enjoyment and understanding of material. I think the research requirement is another strength but there are a few too many hoops for students to jump through in my opinion, so streamlining the process should be a priority in the future.
- I like that it is interdisciplinary and that lab work is required. I enjoyed the variety of courses. I had a really good relationship with my advisor, and I liked how accessible he was.

#### 14 - What do you perceive as weaknesses in the BCMB major, as it is presently constructed?

**Response Rate** 3/5 (60%)

- It is a really rigid design. There's not a lot of room for flexibility in scheduling. I wish the BCMB major included a little more biology in the curriculum. I also wish we had more diversity training and maybe spent some time looking into the contributions of underrepresented scientists in the field.
- Again, the professors. S[REDACTED] the sheer number of labs as well is overwhelming for new students. General chemistry and organic chemistry do not need two semesters of three hour labs. [REDACTED].
- In regards to the senior seminar course, I think that students who were applying for med school/grad school had a huge advantage in relation to the comprehensive exam. Naturally, after studying our core classes intensely for 6+ months they were able to recall key concepts much easier than students (like myself) who "only" studied intensely for the 2 months prior to the exam. I also think that there is a lot of focus on grad school prep, rather than vocational prep. That is totally fine, but I do think that there should be more discussion of that earlier in the major so that students are aware that there is a lot of focus on it being a pre-grad school/med school major rather than just an interdisciplinary one. I wish that there was more focus on what to do with a BCMB degree other than med/grad schools or being a lab tech, because frankly there are so many different jobs that we are able to do and I see a huge number of my peers settle (I would argue) for scribe/lab tech even years post-grad.

#### 15 - Do you have any final comments or observations about your experience as a BCMB major at Hendrix?

**Response Rate** 3/5 (60%)

- Overall, I am really happy with the program and feel like I've grown a lot as a scientist throughout these courses.
- If possible, please remove the ethics in medicine holds for a certain number of students from each class, or make it a major requirement so there's some preference. It's a bit ridiculous that me and a number of my friends tried every year to get in, placing all of our bid points on the course to be rejected in favor of freshmen who transfer out 6 months later. BCMB is sold as the 'pre-med' major so ethics in medicine feels like it should be a standard for students Hendrix is trying to get into medical school. On that point as well, why not allow an mcat or gre score for the cumulative exam? Other majors allow external test scores to count. We've already put in the work and horrendous stress to take a cumulative exam once, why add the additional exam in our last two months here? If you want to see us at our peak performance, utilizing the skills and knowledge we've gained, take the standardized test scores because those are how far we can truly push ourselves and we are much more motivated.
- I would like to see more "team bonding" type events. This could even be a lunch for declared students once a semester in Bates/campbell, where underclassmen can causally ask upperclassmen questions. I feel as though I gained a lot from my BCMB major, but I credit peer mentors from my athletic team and personal social life for key guidance. I would have appreciated an event like that as a freshman or sophomore. I know that we have the IRIS mentoring program, but as an underclassman I felt inundated by events and was thus intimidated from the program, but could have easily attended lunch once a semester.